

IN THE CLAIMS

1. (Previously Presented) A method of executing a sequence of instructions comprising:
 - determining a predicted predicate value for a predicate;
 - storing the predicted predicate value in a speculative predicate register file;
 - conditionally executing a predicated instruction depending on the predicted predicate value;
 - executing an instruction to compare two values to determine an actual predicate value for the predicate;
 - comparing the actual predicate value to the predicted predicate value; and
 - updating an architectural predicate register file with the actual predicate value.
2. (Previously Presented) The method of claim 1, further comprising:
 - flushing a pipeline if the predicated predicate value and the actual predicate value are unequal.
3. (Original) The method of claim 2, further comprising executing the predicated instruction after flushing the pipeline.
4. (Original) The method of claim 2, wherein flushing the pipeline consists of flushing only a backend portion of the pipeline.

5. (Original) The method of claim 2, further comprising updating historical information using the actual predicate value corresponding to the predicate in a predicate table.

6. (Cancelled)

7. (Original) The method of claim 1, wherein determining the predicted predicate value includes calculating the predicted predicate value using historical information corresponding to the predicate.

8. (Previously Presented) The method of claim 7, wherein determining the predicted predicate value includes reading the historical information corresponding to the predicate in a predicate table.

9. (Original) The method of claim 1, wherein conditionally executing the predicated instruction includes executing the predicated instruction if the predicted predicate value is true.

10. (Original) The method of claim 1, wherein conditionally executing the predicated instruction includes treating the predicated instruction like a no-op if the predicted predicate value is false.

11. (Previously Presented) A processor comprising:

- a predicate table;
- a predicate prediction calculator having an input coupled to an output of the predicate table;
- a speculative predicate register file having an input coupled to an output of the calculator;
- an architectural predicate register file; and
- a pipeline having an actual predicate value output coupled to the architectural predicate register file.

12. (Cancelled)

13-14 (Cancelled)

15. (Previously Presented) A processor comprising:

- a predicate table to store historical information corresponding to a predicate;
- a pipeline coupled to the table, the pipeline to receive a predicted predicate value calculated from the historical information, and to conditionally execute a predicated instruction depending on the predicted predicate value;
- a speculative predicate register file to store the predicted predicate value; and
- an architectural predicate register file to store an architecturally committed predicate value corresponding to the predicate.

16. (Original) The processor of claim 15, further comprising a predicate prediction calculator to calculate the predicted predicate value.

17. (Cancelled)

18–19 (Cancelled)

20. (Original) The processor of claim 15, wherein the predicate table is to further store historical information corresponding to a plurality of predicates.

21. (Previously Presented) The method of claim 1, further comprising:
invalidating subsequent access to the predicted predicate value in the speculative predicate register file; and
accessing the actual predicate value in the architectural predicate register file.

22. (Currently Amended) A method of executing a sequence of instructions comprising:

determining a predicted predicate value for a predicate;

storing the predicated predicate value in a predicate register file;

conditionally executing a predicated instruction depending on the predicted predicate value;

~~conditionally executing a predicated instruction depending on the predicted predicate value;~~

comparing an actual predicate value to the predicted predicate value; and

modifying the predicted predicate value in the predicate register file by setting the predicted predicate value to the actual predicate value if the predicted predicate value and the actual predicate value are unequal.